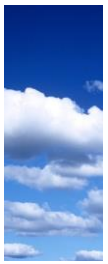


Implementing SB 513

Carl Moyer 2017 Guidelines

Workshop

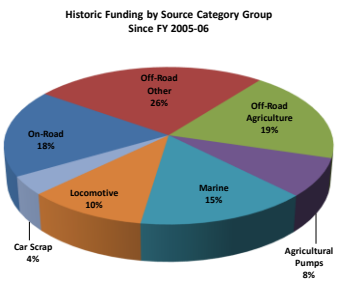
California Air Resources Board
December 1, 2016

Presentation Overview

- Background and Goals
- General Criteria and Infrastructure
- Cost-Effectiveness
- Next steps

Carl Moyer Program Background

- Grant program began in 1998
- Early or extra NOx, PM, ROG reductions
- ARB provides guidance and oversight
- Air districts administer funds and select projects



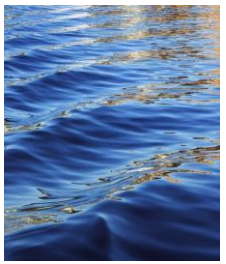
Goals for the 2017 Guidelines

- Adjust cost-effectiveness limits based on costs of technology and regulations
- Provide framework for leveraging of funds
- Add infrastructure category to support the deployment of cleaner technology

AND

- Maintain program accountability to ensure State Implementation Plan (SIP) credit
- Ensure opportunities for all districts
- Ensure continued recognition of environmental justice
- Simplify program implementation

General Criteria and Infrastructure



General Criteria: Program Principles

General Criteria chapter establishes principles as a basis for specific requirements in the program administration and source category chapters

- Emission reductions must be surplus to any local, State or federal rule or regulation
- Projects must be in compliance with in-use rules
- Districts may be more stringent than the Guidelines
- Contract term must extend through the project life

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General Criteria (cont'd.)

- Projects must be SIP creditable
- Moyer will account for SIP credit even if project is co-funded
- Leveraged funds must not exceed total project cost
- Applicant cost share required for non-public projects
  - At least 15 percent of Moyer eligible costs
- Minimum 75 percent operated in California
- Emission reduction technology must be certified or verified

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Infrastructure Projects

- Focus project types on identified areas of need
  - Alternative fuel and commercial charging stations for on-road and off-road
  - Agricultural pump electrification
  - Marine shore power
- District flexibility for project selection
  - Coordinate with other funding programs
  - Meet local priorities

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Infrastructure Projects

- Competitive bid process for publicly accessible stations
- Project funding
  - Moyer to fund 50% of eligible costs
  - Additional 10% for publicly accessible projects
  - Additional 15% for on-site solar or wind power generation
  - 100% funding for school bus alternative fuel and charging station projects

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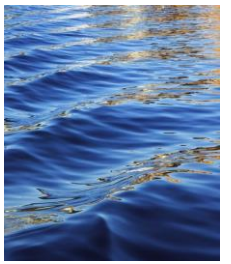
Cost-Effectiveness



Program Updated to Improve SIP Support

- Include inventory updates
  - On-road factors (EMFAC 2014)
  - Off-road factors
  - Deterioration included where possible
- Methods reflect deterioration of the new and old engines
- Consistent with SIP calculations
- More accurately accounts for real-world emission reductions

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Cost-Effectiveness: Background

- 1998 - Original statutory cost-effectiveness limit set at $12,000 per ton NOx
- 2004 - Program revised to allow for additional pollutants - PM10 and ROG
- 2010 - Streamlined annual update of cost-effectiveness limit for inflation
- Current limit: $18,260 per ton NOx+ROG+PM*20

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SB 513 Changes to Cost-Effectiveness

- Establishes School Bus cost-effectiveness limit to enable grants consistent with Lower-Emission School Bus Program
  - School Bus cost-effectiveness limit set at $276,230/ton
- Allows Board in consultation with districts to establish cost-effectiveness values based on
  - Cost of emission control technologies
  - Cost-effectiveness values for adopted rules

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Cost-Effectiveness of Regulations

- Reviewed cost-effectiveness for mobile source and stationary regulations adopted by ARB and Districts
- Included variety of sources:
  - On- and off-road mobile sources
  - Stationary engines
  - Zero emission vehicles and equipment
- Some regulations have cost-effectiveness exceeding $35,000 per ton

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Cost of Technology

- Investigated commercially available vehicles and equipment
- More substantial costs found for technologies needed for SIP
  - Battery-electric and fuel cell transit buses
  - Engines meeting the 0.02 Optional NOx standards
- Cost-effectiveness for these advanced technologies and associated regulations is $100,000 per ton and higher

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Cost-Effectiveness Conclusions

- Higher levels warranted by adopted rules and technology costs
- SIP calls for technologies that require a much higher cost-effectiveness limit
- Want to ensure program doesn't overpay for conventional technologies for which cost is not a significant driver
- SB 513 allows multiple cost-effectiveness values

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Proposed Base Cost Effectiveness Limit

- $30,000 per ton of weighted emission reductions
- Based on the cost-effectiveness of recent ARB and district regulations
- Allows more meaningful grant amounts to encourage earlier replacements

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Proposed Optional Cost-Effectiveness Limit for Advanced Technologies

- Districts may choose to apply $100,000 per ton of weighted surplus emission reductions to reductions beyond those resulting from current required standard
- Based on higher cost of engines meeting 0.02 Optional NOx standard and technologies needed for zero-emission vehicles and equipment
- Limit to be reviewed and modified as-needed based on emerging commercially available advanced technologies

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Safeguards for Optional Advanced Technology Limit

- District has discretion to apply higher limit
- Advanced technology cost-effectiveness limit only available for emissions reductions beyond standard technology
- Engine must meet the 0.02 Optional NOx g/bhp-hr standard or be zero-emission technologies
- Engines must be certified or verified and commercially available for sale in California
- Cost caps and incremental cost percentages provide added safeguards

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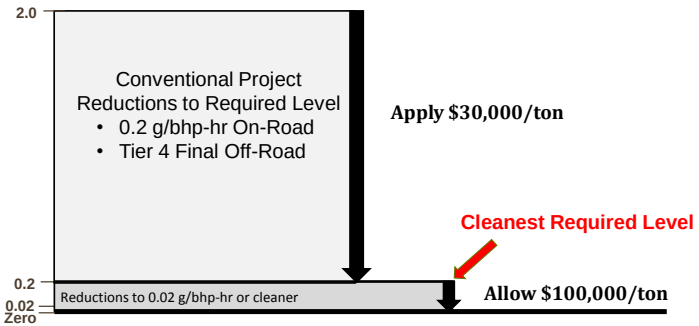
Cost-Effectiveness Limit: Two-Step Approach



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Next Steps

Next Steps

- Comments welcome
- Meetings with stakeholder groups welcome
- Continue coordination with other incentive programs, AQ planning team, air district partners
- Early February – Publish proposed 2017 Guidelines
  - 45 day public comment period
- March 2017- Present Guidelines to the Board for consideration

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Contacts

Email questions and comments to: carlhelp@arb.ca.gov

Workshop materials are posted at:
http://www.arb.ca.gov/msprog/moyer/2017guideline.htm

Additional information on the Carl Moyer Program is available at:
http://www.arb.ca.gov/msprog/moyer/moyer.htm

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Comments and Questions

Carl Moyer 2017 Guidelines